FOREST INSECT CONTROL, CLEVELAND NATIONAL FOREST,
CORTE MADERA PROJECT

Conditions

The attached map shows the approximate distribution of the Coulter pine-Jeffrey pine type in the vicinity of the Corte Madera Ranch. The ultimate limits of the pine are spread out over several sections; but as a large percentage of conifer type includes open grass land and brush cover with only scattering trees, the actual extent of pine forest probably does not include much more than a few hundred acres. The stand consists of all age classes in mixture.

The largest tree found was a Jeffrey pine, five feet in diameter breast high. Coulter pine forms the bulk of the forest cover, and on the slopes and ridges this is the only species of conifer. Jeffrey pine is very restricted and is found mainly around the open grass lands.

No estimates are available as to total volume of timber.

Character of Infestation

The primary insects which are at present killing trees on this area are

Coulter pine
Western pine beetle (Dendroctonus brevicomis Lec.)
Pine flatheaded borer (Melanophila californica V.D.)
Five-spined engraver beetle (Ips confusus Lec.)

Jeffrey pine
Pine flatheaded borer (Melanophila californica V.D.)

A cruise of the area was made March 13 to 15, and the following trees of the 1929 overwintering generation marked:

Tree Species	Insects	No. Trees
Jeffrey pine	Flathead borers	7
Coulter pine	" "	2
Coulter pine	Western pine beetle	20
Coulter pine	Engraver beetle	5
		34

These trees range in size from small poles to mature diameter. In addition to the above list four trees which were not marked were spotted on the area.

In addition to these insects, plant diseases are causing some trouble to conifers. In some localities the pines are heavily infected with mistletoe. Certain trees are also affected by what appears to be a blight-like disease which attacks the smaller limbs, causing them to die back for several feet. These infections occur locally on certain limbs, so that the damage is scattered and does not affect the entire foliage. As yet it has not caused serious defoliation of any trees.

Storms during the winter of 1929-30 caused considerable snowbreak in both oaks and pines. It is expected that the green pine logs which are down will trap much of the infestation during the summer of 1930, and that this will emerge and attack standing trees for the 1930 overwintering generation.

An examination was also made of the area in September 1929, when six Coulter pine trees killed by the summer generation of the western pine beetle were located. One of these was treated. The total summer generation trees for 1929, including both pine beetle and flathead, are estimated at ten. During the September examination 21 trees were counted which had been killed by both summer and winter generations in 1928. The 1927 losses are difficult to estimate, but were apparently about half that for 1928. The losses for the past three seasons would therefore stand approximately as follows:

Year	No. Trees
1927	11
1928	21
1929	48

Possibilities of Pine Beetle Extermination

Plans are now under way by the Cleveland National Forest and the owners of the Corte Madera Ranch to treat all the 1929 overwintering trees that have been marked on this area.

As the forest cover is valued mainly for its recreational uses, insect control work can be carried out on a much more intensive scale than would be warranted for the protection of timber values only. The conditions of the area are admirably suited to the plan of keeping up control work for several seasons, with the idea of ultimately eliminating the western pine beetle. Isolation from other bodies of pine timber is complete on all sides except to the northeast, where a few scattered trees make a connection with the Pine Valley area, leaving gaps of from one-quarter to one-half mile. On the east, south and west brush areas form the only cover for many miles. The possibility of any amount of infestation coming in from outside sources therefore seems unlikely.

To continue this project it will be desirable to treat during the summer of 1930 any infested trees that may develop and which can be disposed of without fire danger or unwarranted expense. In October or November a complete cruise of the area should be made to locate all the infested trees of the overwintering generation. These should be disposed of during the winter months.

J. M. Miller
Senior Entomologist

Stanford University, Calif.,
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Forest Insect Control-
Cleveland National Forest Calif.
Corte Madera Project

Tp. 16. S. R. 4 E.

Legend: — · — · — · — Boundary of Coulter Pine - Jeffrey Pine Type.

Trees of 1929 overwintering generation
Marked March 13-15 1930 D.M. Miller
x Jeffreyi Pine
• Coulter Pine